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## Fertilizer Control Laws

BY R. W. RUPRECHT,

Chemist and Head of Department, Florida Agricultural Experiment Station

As happens every two years there is considerable talk in regard to a new fertilizer control law which the Legislature will be asked to enact. While it is true that our present law can be improved upon, great care should be exercised to make sure that the new law, if passed, will be an improvement over the present one. There is always the danger that the enthusiasm of a group will cause them to lose sight of the practical limitations which chemical methods impose on the enforcement of such laws. The writer has always maintained it is worse than useless to write into a law provisions which cannot be enforced. In writing a new law each new requirement should first be scrutinized to determine whether it could be enforced; second, will entail increased costs in the manufacture which would counterbalance the benefits it would give; third, and to my mind this should come first, although too often it is last, does the new requirement really give worth while information to the user or protect him from fraud. Keeping these three points in mind let us consider some of the new provisions which the writer has heard mentioned.

Changing the guarantee of nitrogen from ammonia to nitrogen. This would be in conformity with all other sections of the country. Only one of two states still guarantee nitrogen

as ammonia.

Another change is to divide the total nitrogen guarantee into four classes as follows:—Nitrate nitrogen, ammonia nitrogen, water soluble organic nitrogen and water insoluble organic nitrogen. This will give the user considerable more information in regard to the materials used in mixing the fertilizer. It will not, however, give the exact information that some believe. For example most guanos contain some nitrate and ammonia nitrogen, likewise most of the high grade organic nitrogen materials will show some ammonia nitrogen by the chemical methods used to determine ammoniacal nitrogen. Therefore the percent of nitrate nitrogen while it will show the amount of nitrate nitrogen present in the fertilizer, it will not necessarily indicate that all of it was derived from nitrate salts. Likewise, some of the ammoniacal nitrogen will probably come from the high grade organics as well as from ammonia salts.

The water soluble organic nitrogen is considered to indicate the nitrogen derived from such synthetic organic compounds as calcium cyanamide and urea. The water insoluble organic nitrogen indicates the amount of nitrogen derived from what might be called the natural organics, such as tankage, fish, cottonseed meal, etc.

Dividing the nitrogen guarantee

as indicated will add to the cost of mixing fertilizer as the companies will have to add considerable more chemical work. However, the added information which the user will get is worth a slight increase in cost.

Some have suggested that potash should be guaranteed as that derived from the sulfate and that from chloride or muriate. There is no way that this could be checked by the control chemist; therefore, there is no use in requiring such a statement. A guarantee of chlorine will give some indication as to whether muriate or sulfate of potash has been used. If only a small amount of chlorine is found it is safe to assume that the potash has been derived from some other source than muriate. However, larger amounts do not necessarily indicate that muriate of potash was the source of the potash as other materials such as kainit also contain considerable amounts of chlorine in the form of common salt.

Considerable interest has recently been aroused in the effect of fertilizers on the soil reaction. It has been proposed that the new law require a statement or guarantee of the potential acidity or basicity of the fertilizer. Others have recommended that all fertilizers sold in this State be required to be made neutral in end reaction. As the writer has stated

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# PRELIMINARY PROGRAM

## 48th Annual Meeting, Florida State Horticultural Society

### April 9, 10, 11, 1935 - Vero Beach

Night Sessions—High School Auditorium.

Day Sessions—Vero Beach Theater.

**Tuesday evening, Apr. 9, 8:00 P. M.**

Music

Call to order—President John S. Taylor, Largo.

Invocation—Rev. T. C. Baldwin, Vero Beach.

Address of welcome—Mayor Alex MacWilliams, Vero Beach.

Response to Address of Welcome H. Harold Hume, Gainesville.

Music.

President's Annual Address.

Address—"Plant Trails in Spain and North Africa," Knowles A. Ryerson, Washington, D. C.

Announcements.

**Wednesday, April 10, 9:30 A. M.**

Music.

Address—"Recent Developments in the Use of Borax," Richard W. Stewart III, Winter Haven.

Address—"The Relations of the State Plant Board with the Horticultural Industry in Florida," Hon Geo. H. Baldwin, Jacksonville.

Address—"Some Phases of Citrus Fruit Production in the Indian River Section," Harry Jones, Vero Beach.

Address—"Recent Developments in the Irrigation of Citrus Trees," E. F. DeBusk, Gainesville.

Music.

Address—"Progress in Zinc Sulphate Studies," Dr. A. F. Camp, Gainesville.

Trip to McKee Jungle Gardens.

Trip to Experimental Plots in Citrus Groves near Vero Beach.

**Wednesday, April 10, 8:00 P. M.**

Music.

Address—"Citrus Fruits in Nutrition," Dr. Ouida Davis Abbott, Gainesville.

Address—"Citrus Advertising from the Growers Point of View," H. C. Case, Ft. Myers.

Music.

Address—"The Role of Citrus Juices in Health and Disease," Dr. Ralph E. Barnes, Chicago.

Address—"Widening the Markets for Grapefruit and Tangerines," Earl W. Brown, DeLand.

Address—"Playing With Citrus Fruits," Dr. F. C. Dorment, St. Petersburg.

**Thursday, April 11, 9:30 A. M.**

Music.

Address—"The Control of Melanoze and Stem End Rot of Citrus Fruits," Wm. A. Kuntz and Geo. D. Ruehle, Lake Alfred.

Address—"Spraying for the Control of Citrus Scab," Geo. D. Ruehle, Lake Alfred.

Address—"A" — "Some Further Observations on Margarodes in Citrus Groves,"

"B" — "The Trend of Citrus Insect Control in Florida," J. R. Watson, Gainesville.

Music.

Address—"The Control of Scale Insects Following the use of Bordeaux Mixture in the Citrus Grove," W. W. Yothers, Orlando.

Address—"The Control of Scale Insects and Rust Mites with Lime Sulphur Solution," W. L. Thompson, Lake Alfred.

**Thursday, April 11, 2:00 P. M.**

Symposium on Cold Effects on Citrus Trees and Fruit, W. W. Yothers, Chairman.

Music.

Address—"Florida Freezes and Lessons from Them," Walter J. Bennett, Jacksonville.

Address—"Some Lessons Learned from Two Freezes," Dr. A. F. Camp, Gainesville.

Address—"The Pruning of Citrus Trees Injured by Cold," Leo H. Wilson, Bradenton.

Music.

Address—"Cultivation Practices to Render Citrus Trees More Resistant to Freezing Temperatures," E. F. DeBusk, Gainesville.

Address—"The Effect of Cold on Citrus Insects," W. W. Yothers, Orlando.

Address—"Chemical Changes in Citrus Fruits Injured By Cold," W. Y. Gary, Winter Haven.

Trip to McKee Jungle Gardens.

**Thursday, April 11, 8:00 P. M.**

Music.

Address—"The Horticulturists of Florida and Their Contribution to Horticultural Developments in Florida," Dr. P. H. Rolfs, Gainesville.

Address—"Horticulture in the Orient," Prof. G. Wiedman Groff, Canton, China.

Music.

Business Session.

## PRELIMINARY PROGRAM

### Third Annual Meeting, Krome Memorial Institute

April 10 and 11 — Vero Beach

**Wednesday, April 11, 2:00 P. M.**

Music.

Call to Order—Vice-Pres. Paul Hoenshel, Port Mayaca.

Opening Address—Dr. David Fairchild, Coconut Grove.

Music.

Address—"Avocado Varieties and Their Resistance to the Recent Cold," Dr. H. S. Wolfe, Homestead.

Address—"The Composition of

Numerous Tropical and Sub-Tropical Fruits," Dr. A. L. Stahl, Gainesville.

Symposium on Cold Injury to Avocados, Mangoes and other Sub-Tropical Fruits and Their Care," A. H. Andrews, Estero; Chas. I. Brooks, Miami; Waldo E. Sexton, Vero; W. F. Ward, Avon Park; Bronson Bayless, Miami; C. H. Steffani, Homestead.

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# A Visit To The Citrus District Of Southern Turkey

By PROF. F. S. BODENHEIMER, In "HADAR"

This trip was undertaken on the inducement of the Imperial Chemical Industries (Levant) Ltd. to examine the possibilities of a fumigation campaign in the citrus district of Southern Turkey. I should mention gratefully the help which was given me by the officials of I. C. I., especially by Chechbech Bey who was my pleasant and useful companion on the whole trip as well as by the local representatives in Syria, in Mersina and in Adana. The Turkish authorities gave me every possible facility thanks to the intervention of my friend, State Counsellor Sureya Bey. I should especially like to thank His Excellency the Minister of Agriculture, Tewfik Bey and Hadi Bey from the meteorological service, and the entomologists Nihat Shevket, Ali Haydar, and Eshref Bey for their helpful furthering of the work. My special thanks are due to I. C. I. (Levant) Ltd. and to its head Mr. I. Weizmann, who furthered this trip in every way. The results of this short trip undertaken in April, 1934, are naturally very incomplete since only one part of the Turkish citrus area, although the richest for the future, was visited and since this visit embraced only one season which was relatively free from pests.

## 1. The Citrus Districts of Turkey

Oranges and other citrus fruits thrive only in the warm, low-lying coastal districts of Turkey; in some parts they are found in vast expansions. The present citrus areas are valued as follows:

District, Dorytol — Expansion beginning 1933, 5400 dunams—No. of trees, 130,000—Age of trees, 30,000 old trees; 30,000 2-3 years old, 70,000 middle aged.

District, Adana — Expansion beginning 1933, 6300 dunams—No. of trees, 250,000—Age of trees, 80% new plants.

District, Mersina — Expansion beginning 1933, 6300 dunams—No. of trees, 250,000 — Age of trees, 65% new plants.

District, Antalya — No. of trees, 160,000.

District, Riza-Trabzon — No. of trees, 170,000.

District, Izmir — No. of trees, 35,000.

District, Aydin — No. of trees, 12,000.

Everywhere oranges prevail over other citrus fruits. In the older orchards of Dorytol and Mersina we find thin-skinned, primitive oranges introduced from Algiers, which can be compared with the Palestinian "Franzawi." Recently, the Shamuti, called "Jaffa", which is spread from Mersina, is preferred. A much higher price can be obtained for the latter. In 1933 in Dorytol £Tq. 50 was paid for 1000 fruits of the "Jaffa" variety, while only £Tq. 3 could be obtained for the same amount of the Alegrian variety. As to how far the Turkish Shamuti really equals our fruit could not be ascertained definitely. "Touranges" are also found.

The greater majority of all trees are grown from seeds and not budded. Only in the new plantations of Mersina, Adaa and to a smaller degree (10,000 trees) in Dorytol, are nately as the season was too late and the fruit tasted quite dry. Mandarins are much more profuse than in Palestine and the large sized ones are preferred. Lemons are rare everywhere, but they are important as

This is not the place to dwell upon suggestions which would improve the citrus culture of Turkey. Until now the practice has been so primitive and empire, that a real problem is the trees budded on Bigradier.

The general selah condition of the trees are not bad. In many scarcely cultivated, or even uncultivated or-

gress is inconceivable, unless the most basic Horticultural practices would be employed.

## 2. The Climate of the Citrus Districts of Turkey

A survey of the Turkish citrus area from the climatic-geographical standpoint proves that almost all the citrus areas are in constant danger of freezing. For example, heavy frosts have set in Adana in January every year and in Izmir, Trabzon and Riza in four out of five years; frost can also be regularly expected in these places during November, February and March. The frosts are never strong enough to destroy the plantations, but they impede the development of a large citrus culture in these districts. In any case, a citrus-monoculture such as governs the coastal areas of Palestine is simply impossible. From the standpoint of winter frosts, the prognosis for the districts of Dorytol and Antalya is substantially more favourable, since in these regions the frosts occur rarely and are also less intense.

The summers are fairly hot; the heat differs only slightly from the optimal growing condition. The lack of strong west winds in the spring is worth of note, but these are counteracted by the sudden "foehn"-like winds in the autumn.

A glance at the rain may of Turkey shows that citrus areas are generally found in those districts which are richest in rain. The attached climograms show this abundance of rains clearly.

The Meteorological Service selected the following dates from the phaenological data and these were kindly placed at my disposal:

Place and Year	Buds	Beginning of		Ripe
		Blossom-Time	Fruit Growth	
Adana 1931	10 4	25 4	30 4	1 12
Antalya 1931	25 3	13 4	15 5	15 10
Dorytol 1931	15 3	3 4	3 5	1 12
Dorytol 1932	5 3	5 4	5 5	1 12
Riza 1932	15 4	20 5	25 6	25 12

chards, one is surprised by the rapid growth of the trees, especially by that of the older trees.

In Adana and Mersina the blossoms normally last from the end of (Continued on Page 22)

## New Combined Spray For Citrus Trees Contains Ethyl Mercury Oleate In Oil

By W. H. TISDALE,

Director, Pest Control Division, Grasselli Chemical Co., Cleveland, Ohio

Citrus groves in the gulf coast states are subject to heavy damage due to the attacks of scale and other insects and fungous diseases, especially scab and melanose. The need for a satisfactory combined spray for the control of these pests was called to the attention of the du Pont Company by the Walker Fertilizer Company of Orlando, Florida, several years ago. For the past five years these organizations have cooperated in a joint program of research with the purpose of developing a more satisfactory spray for the purpose.

The problem of pest control on citrus trees is complicated due to the fact that the citrus scale insects are parasitized by fungi, commonly known to the growers as "friendly fungi." In spraying for the control of scale and melanose, the fungi that parasitize the trees a high percentage of the "friendly fungi" likewise are killed. The "friendly fungi" have a tendency to spread back over the trees readily once the fungicide is gone or reduced to dosages that are toxic. The copper fungicides remain on the trees for long periods after application and prevent the recurrence of the "friendly fungi," thus necessitating additional applications of oil for the control of scale insects

which spread rapidly under such conditions. In ordinary seasons scale and melanose infections are more or less periodic and it is not necessary for a fungicide to remain for long periods on the trees if applications are properly timed.

Definite progress has been made in the development of a satisfactory combined spray. An oil emulsion containing ethyl mercury oleate, a highly effective fungicide, and certain wetting and penetrating agents has been developed through extensive laboratory and field investigations which are being continued with the purpose of further improvement.

A stable oil emulsion containing carefully selected oils, and adjusted to produce satisfactory spreading and coverage of foliage and fruit, has been found to be more satisfactory than the weak or quick breaking emulsions and emulsifiable oils. Very satisfactory scale control has been obtained with this oil. The concentrate is a free flowing product containing sixty per cent oil and 0.51 per cent ethyl mercury oleate. For spraying it is diluted one to sixty in waters free from sulphur which reacts with the mercury to render it ineffective.

The ethyl mercury oleate if applied at the proper time is effective in the control of scab and melanose.

Fruit fall due to stem end fungus infections has been reduced to a marked degree in some cases. In spraying for scab control application should be made just before growth begins in the spring. This application and one or more sprays following petal fall are necessary for melanose control. Further study is needed to determine proper time of application, and number of applications needed under different seasonal conditions.

The ethyl mercury oleate being slowly volatile is dissipated within a few weeks at most, permitting the recurrence of the "friendly fungi" which hold the scale insects in check.

Citrus trees sprayed with this emulsion have been remarkably free from oil injury. In many groves there has been an apparent stimulation of twig and leaf growth and the trees present a more vigorous appearance. The set of fruit is often better than that on unsprayed trees or trees given different treatment.

The experimental results and the results of two years commercial use of the product are encouraging. Investigations are under way for further improvement in the product and for adapting modifications of it for use on citrus trees in other regions and for a dormant spray for deciduous fruits.

### PIONEER IN FARM EXTENSION WORK IS CLAIMED BY DEATH

One of the group of agricultural demonstration workers of the very early days, W. L. Watson, died in Jacksonville on March 12 after a notable career in agriculture. He had been actively connected with extension work in Florida from the time the Smith-Lever Act was passed in 1914 until his retirement on account of poor health in 1930.

Mr. Watson was associated with Dr. Seaman A. Knapp, founder of the demonstration movement, in the early boll weevil work in Arkansas. He came to Florida in 1912 as assistant state agent of the farmers' co-operative demonstration work before it was under the direction of the Uni-

versity of Florida College of Agriculture. He maintained headquarters at Live Oak. From the latter part of 1912 to 1914 he was acting state agent.

While the passage by Congress of the Smith-Lever Act in 1914, Mr. Watson was appointed district agent for north and west Florida. At the same time A. P. Spencer, the present vice-director of Extension, was made district agent for central and south Florida. The work was directed by the late C. K. McQuarrie.

In 1925 Mr. Watson became county agent in Duval county, which position he held until forced to retire on account of his health. He made an enviable record in the county, having put on the first real agricultural fair in the county, established boys' club

work, and generally developed the agriculture of the county.

At the time of his death Mr. Watson was 56 years old.

Spuds Johnson says that rural home life in America has been a potent factor in developing resourcefulness and initiative, perseverance, sincerity and honest of purpose.

The United States Department of Agriculture still receives many thousands of requests for free seeds, although it has had none for distribution for more than 12 years.

Florida citrus juice is the most potential life insurance agency in the United States.—Dr. John Harvey Kellogg.

## Straight Permanent Furrows Advised For Irrigating Citrus Groves

Advantages of straight permanent furrows for irrigation in citrus groves where cultivation for water conservation is limited to weed control and where the use of the same furrows or checks for more than one irrigation is practiced, were pointed out by C. A. Taylor, U. S. Bureau of Agricultural Engineering, to members of the western section of the American Society of Agricultural Engineers at Corvallis, Oregon, December 28th. Taylor also discussed the use of disk harrows for incorporating bulky organic matter into the soil.

With permanent furrows, it is possible in one operation to control weeds and to prepare furrows for irrigation with the least possible disturbance to soil. This is desirable, since stirring the soil, especially when it is moist, breaks down its structure and reduces its capacity to absorb water. In this way water can be spread over the land more uniformly and more efficiently and with less danger of over irrigation. Furrows can be made broad and shallow so that more of the fertile top soil is available to feeder roots. Compaction of soil, although unavoidable, is minimized.

To get the best distribution of water and nutrients in the zone of greatest feeder root concentration, use as many furrows as possible, says Taylor. Because there is a ready cross transfer throughout the tree and because any root may deliver water to any branch, water need not be applied in each furrow at each irrigation. It may be applied in alternate rows, in alternate groups of furrows or even between alternating rows of trees. Alternate irrigation is a safe means of drying the soil close to the wilting point and permits relatively long intervals between irrigations an economical and efficient practice.

With a number of furrows, unavoidable packing of the soil by wheels may be confined to two definite furrows which may be put to good use. The wheel furrows or lanes can serve as lead ditches to carry water which, at different points along their length, may be cut in to the more absorptive furrows in which wheeled implements are not operated.

For weed control and for building

of permanent furrows, Taylor has developed sweep attachments which clean the furrows of weeds and other debris without breaking them down. This operation permits the free flow of water in the furrows. The sweeps are drawn through the furrows when the soil is dry before each irrigation. The cutting depth may be as little as 1-2 inch or as deep as desired.

To get the best cutting action when disk harrows are used for incorporating bulky organic matter into soil for fertilization, disks are set at a large wide angle and the implements are equipped with 12 inch rollers to limit the cutting depth to not more than 5 inches, according to Taylor. Unless equipped with rollers, the harrows disturb and pull away too much soil from under trees where it is usually soft. Minimum disking conserves the feeder roots of the trees. In most groves, the cover crop or weed growth is disked under as soon as the ground is dry enough to be worked in the spring.

### WORK OF FARM CREDIT ADMINISTRATION

Over 30,000 farmers in the third Farm Credit Administration district, comprising the states of North Carolina, South Carolina, Georgia and Florida, have made applications through production credit associations for loans totaling \$9,003,853 through February 28, according to figures given out by the Production Credit Corporation of Columbia.

Through March 7 commitments totaling \$4,597,636.21 had been approved by the Federal Intermediate Credit Bank of Columbia, it was announced by that institution. On this same date last year commitments approved totaled less than \$1,000,000.

The loans for production purposes made by production credit associations last year in the four states totaled approximately \$9,000,000. The total this year is expected to go well beyond that figure as the flood of applications to date would indicate.

From Florida 1,490 applications for \$478,831 had been sent in by production credit associations through

February 28.

Production credit associations make loans to farmers to finance the production, harvesting and marketing of crops. These associations are composed of farmer-borrowers and make short-term loans on a business basis to farmers in every county. Every county is provided for in the set-up of associations and any farmer who does not know the location of the association serving his county may secure the information from his county agent or teacher of vocational agriculture.

Production credit associations do not loan government money but obtain loan funds by discounting borrowers' notes with the Federal Intermediate Credit Bank. The Intermediate Credit Bank obtains its funds for discounting purposes from the sale of debentures to the investing public.

The production credit associations at present are charging 5 per cent interest on production loans but interest is charged only for the time the money is borrowed and farmers may get their applications in now and have them approved and get their money when it is needed. Many farmers are planning to save on their interest charges by obtaining their loans in a series of installments. They will pay interest on each installment only for the time they have the money.

### ZINC DEFICIENCIES IN SOIL

Zinc deficiencies in soils appear not to be restricted within any series or type. Length of the period that the land has been under cultivation seemingly is a controlling factor. If the lands have been cropped continuously for a long term of years the lack of zinc is usually disclosed. Thin soils, of the Norfolk family, undoubtedly will give evidence of the shortage sooner than is the case with most others. On almost any kind of land intensively cultivated for a great many years, the deficiency in zinc is likely to be ascertained, nevertheless, if the situation is given careful study.

### IN THE LONG RUN

AERO  
CYANAMID  
always wins!





## The Citrus Industry

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### LOWER TARIFF ON CITRUS TO CANADA IN PROSPECT

Florida citrus growers are deeply interested in negotiations now in progress looking to a reciprocal tariff agreement with Canada which would carry a much lower rate in the Canadian tariff on citrus fruits grown in the United States. Florida citrus men who have kept in close touch with the negotiations are much encouraged over the prospect for early completion of the reciprocal trade pact and are confident that citrus fruits from the United States will be admitted to Canada at a greatly reduced tariff.

The present tariff rate on American oranges under the Canadian tariff is 70 cents per box and for grapefruit 90 cents per box, which is practically prohibitive in view of the much lower differential granted to citrus producers in the British provinces. Canadian merchants are said to be favorably inclined toward the proposed reduction in the tariff on American citrus fruits, since the Canadian consumers much prefer American fruits and would gladly buy them if the tariff rate permitted them to be sold in competition with citrus fruits grown in other territories.

Citrus growers of Florida, California and Texas have appeared before the committee in charge of the reciprocal trade agreement and have presented the claims of American citrus growers in no uncertain terms. The entire Florida delegation in congress, both in the upper and lower house, are squarely behind the position and are being ably seconded by the delegations from California and the citrus growing sections of Texas and Arizona.

The lowering of the Canadian tariff to a point where American grown citrus fruits may enter Canada on an even footing with citrus

grown in other producing territories would, it is believed, result in largely increased consumption of Florida citrus fruits by the Canadian public.

The progress of the negotiations will be watched with keen interest and leaders of the industry in Florida express confidence that the lower rate sought will be granted by the Canadian government when the reciprocal pact is approved by the two governments.

### THE HORTICULTURAL SOCIETY MEETING

The Forty-Eighth Annual meeting of the Florida State Horticultural Society will be held this year at Vero Beach on April 9, 10 and 11, and the preliminary program indicates that it will be of peculiar interest to the growers of the state.

The Florida State Horticultural Society during the nearly half century of its existence has been of great benefit to the citrus growers of Florida. In every emergency which has arisen in the industry the Horticultural Society has risen to meet the emergency and combat every threatened disaster. The meeting at Vero Beach will pursue this same policy by devoting special attention to the needs of Florida groves following the disastrous freeze of last December.

The officers, directors and members of the Florida State Horticultural Society deserve the united support of Florida citrus growers. This support can best be shown by attendance upon the annual meetings and by membership in the organization itself. Florida citrus growers should unite to see that the meeting this year is the most largely attended in the history of the Society and that the membership roll is swelled by the addition of many new names.

### GROWERS REHABILITATING GROVES

A trip through the citrus producing sections of Florida at this time reveals the fact that Florida citrus growers are doing their utmost to rehabilitate their groves and repair the injury sustained in the December freeze.

Trees damaged by the freeze are being trimmed, pruned, and in some cases entirely removed. Young trees too severely injured to be successfully treated are being replaced by new trees. In many groves tops have been cut back and the trees are being rebudded to new stock.

Where not too severely injured, trees are being given every possible attention with a view to bringing them back into profitable bearing condition at the earliest possible time. On every hand evidence is seen of the growers' determination to remedy the damage as quickly as possible, and a revival of that spirit of optimism which has characterized citrus growers of the state following every setback which has beset the industry from its earliest days in Florida down to the present time. This spirit of optimism has always, and will always, rise above every catastrophe.

# IMPRESSIONS

By Frank Kay Anderson

Sunday, February 10, was the 72nd birthday of Uncle Jeff, the term is one of affection, S. J. Sligh of Orlando, well known head of S. J. Sligh & Co. . . . the which shipper of Elk brand citrus fruits has been an active factor in the state, as nearly as old timers can figure, for about 65 years . . . That hardly can be accurate, however, for that would make the Hon. S. J. Sligh only seven years old at the time the firm was founded . . . Anyway it is a long time back . . . and it is a long and very active career that he has had in Florida . . . and he still finds time to run both citrus and tomato shipping operations, and to participate very actively in Orange county civic affairs as well . . . An Orlando newspaper calls attention to the fact that the California Fruit Growers Exchange recently in the northern newspaper advertising headlines the claim, "Sunkist are Juiciest," for its oranges, presumably the navels of this season . . . Yeah? . . . How do you get that way, Messrs. Armstrong, Powell and Geissenger? . . . Just how would that statement be defended if some Florida grower was rude enough to ask the Federal Trade Commission to demand proof of it, as it is entitled to do? . . . Now comes the news that within a fairly short period the Di Giorgio Fruit Corporation is to absorb its subsidiaries, and become a real operating company instead of the holding organization it long has been . . . The International Fruit Corp., which owns Lucerne Park, the Allapatahatchie, Fuller's Crossing and other valuable grove properties in Florida together with tomato and other truck acreage, is one of those subsidiaries . . . others are Earl Fruit Co. (California), Baltimore Fruit Exchange, the Tropics Corp. (bananas), Klamath Lumber & Box Co., and Pollack Lumber Co. . . . Those who heard Walter Blair of New York in his stirring appeals to Florida growers to join in listing Florida citrus fruits on a New York exchange for futures selling will be interested in the aftermath . . . Recently the New York Mercantile Exchange refused to accept such list-

ings, reasoning that they are impractical, despite the fact that Blair and one I. Hessberg presented the project most alluringly . . . among other statements to the exchange was the claim that its proponents represented the control of eleven millions of boxes of Florida citrus fruits . . . but that argument failed to move the exchange's committee . . . Now the New York Mercantile Exchange is the one whereon are handled butter, eggs, etc. . . . If citrus fruits are to be capable of being listed anywhere, it should be on this board . . . As we recall it, while Blair was making his inspired orations over Florida all the mention heard was of the New York Produce Exchange, which title happens to be something of a misnomer because no produce is handled by it . . . It develops that before the matter was presented to the Mercantile Exchange by Blair and Hessberg it had earlier been presented by them to the Produce Exchange, but without obtaining the consent of that body for such listings . . . Looks as if another Florida promotion fostered from outside the state had blown up . . . ain't we in Florida the perennial suckers? . . . It was the Orlando Kiwanis Club which thunk it up and started the business of sending regular shipments of Florida oranges to the Dionne quintuplets up in Canada a long time back . . . Now, however, California has joined the happy band and is sending a box of California oranges to them every two weeks . . . When those kids get old enough to autograph endorsements of this and that to eat and wear, we may look forward to both stimulated and improved magazine advertising . . . And the ancient and honorable National League of Commission Merchants is now the National League of Wholesale Fresh Fruit and Vegetable Distributors . . . the which is a much more logical title since the old time commission merchants are largely extinct . . . Just browsing over the figures of the New York auction market for the week ending February 2 . . . most any other week would do, but it happened to be this one . . . Here's Florida oranges selling from a low

of sixty cents to a high of an even six dollars . . . Florida grapefruit from seventy cents to \$6.25 . . . tangerines from 25 cents to \$3.25 per box . . . Which certainly opens the way for any Florida publication, or individual, either to point with pride or to view with alarm, according to inclination . . . Then during the same period the revealment that California navels had a low of \$2.35 and a high of \$4.25 . . . Seems as if a little thought on the subject of those figures for a week ought to be equivalent to a whole sermon . . . Clifford Hiatt, the w.k. county agent of Lake County staging a breakdown . . . probably too much high speed work and worry trying to corral all the prizes at the various winter fairs . . . Cliff Hiatt has been grabbing more than his share the last few years . . . Figures show that from the beginning of the season until January 31 the railroads hauled only 48.5 per cent of the oranges, 46.9 per cent of the grapefruit 42.2 per cent of the tangerines shipped out of Florida . . . The boats and the trucks continue busy . . . If John F. May of Winter Haven is getting about these days in another car it isn't his fault . . . that old one he has been gallivanting about in so long just quietly burst into flame and burnt itself up, all alone and unattended . . . probably unwilling to linger along and go the way of the old one-hoss shay . . . Out in Texas the accord between citrus shipping concerns still muchly noticeable by its absence . . . the pot there not calling the kettle things so vociferously, but when it does cry out still saying, "Black!" . . . With all the titles, so lengthy and so freely bestowed, the AAA seems to have forgotten to provide for suitable "oilers upon the waters." . . . And out in California great gobs of grief freely festooning the citrus deal . . . The biggest crop of Valencias in history pushing up . . . nearly six millions of boxes more than last season . . . 22,000,000 boxes estimated as against 16,500,000 shipped last year . . . Valencia growers want to get started real early with their shipping in conse-

quence . . . Meantime a lot, a whole lot, of navels still on hand to go . . . It's hard to guess, but it looks as if perhaps ten thousand carloads of this winter's navels may have to go to the ground unshipped . . . Some claim the California control committee held down the prorate of navels too low from week to week during December, January and February . . . but the sales of navels in the markets during that period hardly bear that out . . . They brought such low prices generally as to hold no profit to the growers over their cost of production, frequently running into the ink that is red . . . if more shipments had been allowed to go forward the price trend certainly couldn't have been upward . . . From Washington on February 11 figures to show farm income in the various states before, and after, the AA . . . North Carolina showing an increase of 152 per cent . . . South Carolina 95 per cent . . . Georgia 89 per cent . . . Alabama 80 per cent . . . California 21 per cent . . . New Hampshire 7 per cent . . . Florida ONE per cent . . . Now, now, Mr. Wallace, how about some men with sand in their shoes while the substitutes are being rushed into the lineup? . . . And never mind the collegiate degrees, just a high degree of practicability . . . Florida growers not inclined to be critical of the FCA and the other alphabeticals which impinge upon their consciousness, but this here, now, AAA doesn't seem to click on citrus . . . From Cocoa the news that Russell Field's boy John at Yale has been awarded an Oxford scholarship . . . and will go to England following his graduation from Yale this spring . . . E. B. Lindabury of Lotus celebrated his ninetieth birthday on February 12 by going into his grove and hoeing out some orange trees . . . The much-cussed canneries paying more for grapefruit in many sections in the latter part of February than the growers able to realize for it in other directions . . . Heaviest freeze of many years played havoc with the Spanish orange crop . . . loss put at better than sixty per cent in early estimates . . . later signs that the loss figures may grow . . . Opening the way, however, for California Valencia exports to the British Isles and elsewhere in places where the Spanish supply normally holds the markets . . . No chance for the over abundant supply of California navels though . . . their carrying quality has been so bad this season it has been difficult enough to lay them down in New York or Boston . . . Florida oranges generally just won't stand the

## THE CITRUS INDUSTRY

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trip across the water and turn up in good selling shape . . . an exception a number of years back was found in those from the late Theodore Strawn's groves near De Land . . . They stood the trip to England well . . . probably due to the difference in his then scheme of fertilization and cultivation . . . for oranges from adjacent properties couldn't stand the gaff . . . After folks representing the fruit and vegetable producers over the country got the Copeland bill in congress amended to except fresh fruit and vegetables from the provisions for setting up standards, as for manufactured products, they found another joker in the bill . . . a provision for legally establishing "identities" which is sufficiently obscure and indefinite to promise trouble . . . Hard to make non-farmers realize that natural products essentially are subject to variations from season to season . . . and that differences in soils produce other variations . . . And those fellows who get their farming out of books will overlook a lot of practical details . . . Oranges, no less than other things, possess considerable natural heat . . . when packed and stored without ventilation the heat they generate is considerable . . . causes quick decay . . . however, chilled to a temperature of forty degrees Fahrenheit for two hours the temperature of an orange, like that of an egg, thereafter is that of the air which surrounds it . . . With a hearing in sight looking toward perfecting a reciprocal treaty with Canada which may permit better export of U.S.A. oranges into the Dominion, the Canadian demand for Florida oranges took a strong boost in February, following the freeze in Spain . . . Spanish, Italian and Japanese oranges have been coming into Canada duty free, as against quite heavy duties on U.S.A. fruit . . . a byproduct of the tariff wars concerned with products in which Florida citrus growers have no interest . . . The Orange Court has nothing to do with oranges, and isn't a court . . . it's a hotel in Orlando . . . And now that V. W. (Doc) Estes, the Orange county citrus grower who just now is mayor of Orlando, has a daughter soon to be married we have found out from the papers what his front name is . . . Sh! It's Verner . . . which maybe is why he's "Doc" to half a county . . . That little back country doctor, Dr. A. R. Dafoe of Callander, Ontario, who is the official chaperone of the Dionne quintuplets, has certainly blossomed out with some nice personal stationery . . . Arnold Mickler of Orlando, who

has had to do with the regular Orlando orange shipments to the quints since they began months ago, showed us a letter from the doctor on this new stationery recently . . . By the way, it is one of the finest real testimonials to the value of orange juice in infant diet ever we have seen . . . Florida orange wine has gone kosher . . . now with rabbinnical approval it is eligible to be served as sacramental wine in the synagogues . . . which is no small item in the affairs of Florida commercial orange wineries . . . the first time, too, as far as any records show, that any other than a grape vintage ever has obtained such approval . . . of course, in the long history and the wanderings of the Jewish people it seems more than likely that upon occasions other than grape wines thus have been used . . . but there are no records to prove it . . . Nobody claiming credit for the elevation of orange wine thus . . . and no one admitting anything . . . Yet we record a personal suspicion that a large Orange county citrus growers had a hand in it . . . a gentleman by name of Solomon Wittenstein, who is not wholly unknown to the readers of these pages . . . We tried to cabbage one of the kosher labels from a winery

Frank Kay Anderson

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Altamonte Springs, Florida

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## CANADA

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to reproduce for the edification of readers of this publication . . . but were stopped with the warning that all the labels were counted and each and every one, including spoiled ones, had to be accounted for . . . Then news not so comforting in that the large wineries find themselves much embarrassed by federal regulations . . . which regulations based upon ancient enactment probably had their inspiration from the big grape wine areas . . . Can't fortify orange wine with orange brandy, but must use grape brandy, paying profit to makers and federal tax thereon to boot . . . it's a plumb bit of foolishness . . . the sort of involvement that only a great big democratic government much given to red tape could produce . . . calling now for an act of congress to clear the matter up . . . and everybody in citrus now hoping the Florida delegation in congress will be able to obtain action promptly . . . A queer quirk that the U.S.D.A. wasn't posted on the legal aspects of orange wine making before it turned Harry von Loescke and the other experimenters loose at Winter Haven in an effort to show Florida how to do the job . . . A little jog out to the southern end of Lake county to see the drilling for an oil well under the sponsorship of J. Ray Arnold, Geo. R. McKean et al . . . It's a big 122-foot steel derrick, and if there be oil beneath these Florida sands it should be sufficiently flattened by such elaborate preparations to gush forth this time . . . And the look on J. Ray Arnold's face when after seven years we broke the news to him that it wasn't his hard luck which caused him to ride in an upper berth on a certain memorable Chicago trip, but that he had been "framed" . . . Three of us matched to see who gave up his lower to two very elderly ladies who were booked for an upper . . . the Arnold person had discovered them . . . the third man in the equation, a stranger, surreptitiously indicated to us an eagle in an advertisement in a publication he was reading . . . so we turned tails . . . and so did he . . . and J. Ray Arnold traveled to Chicago in an upper; and darned near caught his death of cold . . . The most flattering bit of flattery we've been flattened to receive for a long time from George McKean . . . says he maintains two subscriptions to this publication, one to Tampa and one to Groveland, in order through Impressions each month to keep track of his old friends and associates in citrus since he's not active in the business . . . George recently had been

to Miami, and had stopped off at Oak Hill for a visit with our old friend, and his one-time associate in Buckeye Nurseries, Halle C. Allen . . . who for a recent coon's age has been running the Exchange packing house at Oak Hill in which Howard G. Putnam is one of the leading lights . . . Speaking of Exchange packing house managers reminds that time seems to be dealing kindly with Harry Plano of Kissimmee no less than with Phil C. Peters of Winter Garden . . . Harry, too, seems to be getting better looking as time passes . . . At a little distance in a hotel lobby we recently mistook him for Will Rogers . . . A meeting with Harold Lyman Wall, once an important cog in this publication, who now is engaged in citrus selling by trucks to certain territory . . . he of the opinion that the dry fruit which went forward in recent weeks has played hob with the consumer demand . . . and further of the opinion that the large volume of such poor fruit has served to set the prices in the markets . . . Frank W. Ostrander over from London to have a look-see at his big grove near Auburndale . . . this his 112th crossing of the Atlantic . . . looking fine albeit he had a severe illness from an infected wrist since last we saw him . . . 69 years young . . . still sticking to his American citizenship . . . but claiming our remarks in print at the time of his last visit concerning his not wearing spats or a monocle were downright "scurrilous." . . . Now that, we take it, is a strong word, though we are not precisely sure of its meaning . . . Anyhow we'll deal gently with him this time . . . For though the two hour talk we enjoyed

with him was to us most interesting we are barred from printing any portion of it by his stipulation that it most distinctly was not for publication . . . So we'll just say he is one of our favorite people . . . and let it go at that . . . W. H. (Bill) Mouser of Orlando accusing us of writing some daily newspaper stuff under another name . . . but, thank goodness, that writer will have to take the blame for his own productions . . . we, surely, have enough to answer for to the folks in citrus because of what we put into print in these columns . . . without shouldering responsibility for anything we haven't even read . . . Fortunately, we know the guy responsible for that daily paper prattle . . . and if ever we are pressed too hard to clear ourself then look for us to produce him in the flesh . . . and then stand by while the pies are thrown . . . Well, it won't be long now . . . The legislature starts work right after the first of April and Gov. Sholtz will lay before it his program for needed citrus legislation . . . he'll get quite a few suggestions, it is likely, from quite a few sources . . . He really wants them, for though bound and determined to do something constructive for Florida citrus he is keenly conscious of his personal lack of knowledge of it . . . so why shouldn't everybody growing citrus write a letter to the Governor and tell him what's what? . . . that South Florida boy is kind of lonesome away up in Tallahassee anyhow . . . a few thousand letters ought to cheer him up . . . Here's ours: "Leave it alone, Dave, if you really want to go to the senate."

## Soil and Land Utilization Survey Of Florida

If there ever was a time when Florida needed to face facts squarely, it is now. The nation is thoroughly cognizant of the fundamental influence of agriculture in the existence of our commonwealth. Never has this been more keenly realized than now, as is indicated by the fact that our national government is showing a profound interest in the welfare of the rural people. In a large measure the prosperity of a country depends on the prosperity of the agricultural population. In many ways rural America have been working against the inherent properties of the soil. This is also true of Florida. So the problem of adjusting agri-

culture faces the nation and state as never in history. Yet in the midst of plenty many seem to be in want. This is largely due to the fact that we have practiced a policy of land exploitation instead of one of sane land utilization. Such practices are making us realize that certain soils are not inherently adapted to profitable and permanent agriculture. This is due more to the qualities of the soil than to the qualities of man.

With all of the modern improvements and inventions man is still faced with the fact that the welfare of a nation depends on how efficiently she uses the inherent qualities of

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# Florida Folk Fast Forget Freeze

By  
Jefferson Thomas

Nirvana had not any great deal of advantage over Florida. In legendary lore described as a state of complete forgetfulness, Nirvana yielded succor from worry to all who were given the privilege of entering. Florida confers upon them who inhabit her confines a somewhat less comprehensive capacity for dropping from memory the things that are unpleasant but few of her people retain more than hazy recollections of major calamities.

When the speed with which Nature brings recovery from catastrophes in Florida is taken into consideration, the tendency of the folks who live within her borders rapidly to forget losses and suffering becomes easily understood. Under the soothing and recuperative effects of the state's sunshine and breezes, humankind and plant life alike respond quickly.

What else in truth could be expected of the folks living in Florida when they are surrounded by the phenomena that again was revealed during the recent winter? Why should they hold in mind even a destructive freeze since the climate and the soil combine in the production of crops so marvelously soon after its occurrence?

On December 11 and 12, 1934, the state was visited with extremely and extraordinarily severe cold. Surveys made under official auspices indicated that nearly 60 percent of the oranges then on the trees were severely damaged. Grapefruit were correspondingly hurt up to almost 50 percent and tangerines injured more than 80 percent, according to these findings.

Yet shipments of citrus fruits were maintained with but minor interruptions and not until two months or more after the freezes did the movement begin to drop below that of the preceding season. Three months or more following the freeze, the shipping statistics showed declines only in small percentages.

Tender vegetables were destroyed almost completely in the second week of last December. Within a sixty-day period, nevertheless truck crops were going to market at the rate of exceeding 1,000 cars a week, by all-rail carriers, motor trucks and boats conveying large quantities in addition.

## Growers Fail To Remember

Florida citrus groves particularly those in the lower part of the state, had not been called on in 17 years to withstand weather approaching in severity that which brought about the December disaster. Well on to 40 years had elapsed since the industry had been through the direct distress from freezing. Growers still lived who had witnessed the heart-rending scenes of the late 1890's but time had healed their wounds and dulled their memories. Many more there were who recalled 1917, but few did so in the fullest detail or with dependable fidelity to facts.

In no measure surprising was it, therefore, that coincident with the thawing of the ice on December 12th and 13th, counsel concerning the proper care of damaged trees and injured fruit was earnestly sought in thousands of instances. Old-timers in every neighborhood were looked up and interviewed. Service departments of marketing groups were consulted, cultural experts of commercial concerns such as fertilizer companies were talked to and sundry different sources of information were tapped.

Chief of the agencies from which advice was asked are the State Agricultural Experiment Station and the sister farm service organization, the Agricultural Extension Service. Into the main offices on the University of Florida campus flowed letters by the hundreds and scores of growers visited them in person. Staff specialists were eagerly awaited and contacted as they traveled over the citrus belt on official duties and the headquarters of the county agents literally were bombarded with questions.

"What shall we do and when?" were inquiries on the lips of practically every grove owner who had seen partial ruin wrought among the trees that meant so much in his economic affairs. "Is it best to remove frozen fruit right away or shall we wait?" "Ought dead wood to be pruned off without delay or at a later time?" Should fertilizers be applied in the immediate future, and if so, what mixtures are preferable?"

These and scores of similar interrogations filled the air and the mails. Responses that were received

proved the truth of the maxim, "Many men, many minds," when they came from friends and acquaintances. In far the greater number of cases, however, replies were awaited from authoritative sources. Never before the confidence growers hold in their official research workers had been more thoroughly demonstrated.

## Advice From Station Staff

Memories possessed by members of the State Agricultural Experiment Station staff are not any longer than those of Florida citrus growers. In the files of the Station, however, are retained records through which is revealed much in the way of dependable information concerning the behavior and results of preceding freezes. Collection of data on the subject of damage to crops and trees began shortly after the establishment of the institution at Lake City in 1887 and has been prosecuted in a more intensive way since the removal to Gainesville in 1906, followed by the later location of a citrus branch station near Lake Alfred.

Available, therefore, was a great deal of significant material on which could be based conclusions regarding the probable after-effects of the cold-wave in December, 1934. Weighed with due consideration for changed conditions in respect to the localities in which the citrus industry was mostly concentrated and with reference to varieties, methods of cultivation, fertilizing and spraying, the recorded experience of the past afforded a safe basis for advice in the existing emergency.

Appreciation was not lacking at Gainesville of the serious nature characterizing the calamity. Nor was any absence of understanding in evidence that growers would need counsel and promptly ask for it. Before the temperatures had risen to normal from the low figures reached on December 13th and 14th, the Experiment Station accordingly sent out a press release urging grove owners to proceed with caution in attempts for administering aid towards recovery of citrus plantings.

With H. Harold Hume, assistant director in charge of research—himself a veteran in the citrus field—as authority for the statements, the

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Never before such assurance of real soil control!



● It has become increasingly apparent that the "Guaranteed Analysis Tag" required by the Florida Fertilizer Law is of little actual value or protection to the buyer. Information on the tag is often misleading and substitutions are entirely possible. The problem has been not only in choosing a fertilizer suited to a particular soil or crop—but also in being assured that the needed elements were actually contained in the fertilizer purchased. ● That, in brief, is the reason for the new, blue tag which will shortly appear on every bag of Gulf Fertilizers\*. A glance tells what part of the "Organic Ammonia" is water soluble (quick-acting) and what part water insoluble (long-lasting). The Mineral Ammonia is broken down to show the amount from both Ni-

trates and Sulphates. Secondary plant foods contained are plainly listed. The Net Acidity or Net Basicity is shown (whether the soil reaction will be acid or alkaline and to what extent). And other valuable information is included. ● Remember—the actual manufacture of Gulf Fertilizers has not been changed. The valuable data that will appear on the new Friendly Fertilizer Tag has all along been used in formulating Gulf Brands. The difference is that this information is now being given to the buyer. ● Study carefully the Friendly Fertilizer Tag. Think what such timely information will mean in helping you to choose the proper plant foods for your farm or grove. Here in reality are Friendly Fertilizers—with every assurance of more definite soil and crop control.

\*Special Mixtures not included unless requested.

**THE GULF FERTILIZER COMPANY**

36th Street South of East Broadway, Tampa, Florida



## FLORIDA FOLK FAST FORGET FREEZES

(Continued from page 14)

story given to the newspapers advised that nothing be done until the extent of the damage had been fully determined. Delay in pruning and removal of dead wood even then also was recommended, and it was explained that steps for speeding the trees from a dormant condition into growth might prove fatal to them in the event of subsequent freezes before spring.

In the immediately succeeding weeks, the counsel of Mr. Hume was supplemented by suggestions, conveyed in additional newspaper articles and through a multitude of letters, from staff specialists of the Experiment Station. Fertilizer reactions were covered by Dr. R. W. Ruprecht, head of the chemistry and soils department, insect pest complications by Prof. J. R. Watson, the Station entomologist, cultivation and cover crop angles by Dr. A. F. Camp, chief horticulturist and disease possibilities by Dr. W. B. Tisdale, plant pathology head.

Assistance in the dissemination of the essential facts was rendered by the Florida Agricultural Extension Service, also quartered in the College of Agriculture at the University of Florida. Demonstrations and field conferences conducted by the Extension Citriculturist, E. F. DeBusk, were particularly efficient in getting across the message in the places where it was most needed.

Stress was placed, in all the communications, whatever the channel through which they went out, on the danger from a recurrence of severe cold towards the end of winter. The value of the emphasis laid on this point was made clearly evident when only a late afternoon shift in the wind saved Florida from another devastating freeze on February 28, 1935.

### Looking Into The Future

Changes in the social, political and economic fabric of American life, that have taken place in the period of almost 50 years during which the State Agricultural Experiment Station has served Florida, record scarcely greater or more marked modifications than have been achieved in fruit growing and farming. Just as human nature remains much the same, the basic foundations of agriculture nevertheless have continued relatively constant. Phenomena affecting farms and groves in a major degree deserve study in the light both of the enduring and the passing fac-

## THE CITRUS INDUSTRY

tors.

Citrus trees will be destroyed by severe cold, no matter where planted and regardless of how vigorous they may be. Fruit carried on the trees will be damaged and rendered unfit for consumption whenever temperatures sufficiently low prevail for a long enough time. Facts such as the foregoing are fundamental, they will never cease to furnish the background for endeavor that seeks to lessen the danger from frost and they must not be ignored in study which has as an objective the development of preventive or protective measures.

Yet any number of natural conditions may influence the severity of cold waves or modify the capacity for harm that they carry. Direction from which are coming the prevailing winds, quantities of moisture in the soil at the time and degrees of dormancy in the trees afford familiar examples. Elements of an artificial character also may contribute to partial or complete immunity from harm, such as irrigation, grove heating and the like.

In the wake of every recurring visitation of freezing weather in the Florida citrus belt is to be found a wealth of indicative facts upon which may be predicated much that growers will find helpful in future emergencies of the same kind. When these are intensively studied, appraisal of the value possessed by modern methods and equipment becomes practicable.

Research properly consists of inquiry into the type of conditions and consequences encountered under these circumstances. Investigations planned to uncover and evaluate the testimony left behind them in the citrus groves of Florida when the December freezes moved along were inaugurated by the Agricultural Experiment Station coincident with their departure.

Expanded to include the different sub-tropical fruits produced in the same areas as grapefruit, oranges and tangerines, the survey has been vigorously prosecuted on a broad scale. Varietal hardiness and response, methods of care, measures for avoidance of loss and similar phases have been gone into exhaustively and painstakingly.

Coordinated and compiled, the records of the findings will furnish matter of vast importance with respect to the freezes that come to Florida in the years ahead. Initial presentation of the principal points has been planned for the meeting of the State Horticultural Society in Vero Beach on April 9, 10 and 11,

March, 1935

1935.

Interest and timeliness thereby will be added to the annual gathering of that pioneer organization, the history made by which has contributed so constructively to the upbuilding of Florida.

## SOIL AND LAND UTILIZATION

### SURVEY OF FLORIDA

(Continued from page 13)

her soil in producing food and other essentials under a permanent system of agriculture. All classes of people are vitally affected by the soil problems, whether they admit it or not. To bring sub-marginal land into cultivation means that sooner or later the success of the people in such areas becomes so uncertain that they are unable to share their responsibility to society and everybody is involved. So the problem of a sane use of the soil and land is interwoven into the very heart of civilization itself.

It would seem appropriate for Florida to study and evaluate her soils for different purposes, and on such a basis establish a sound agriculture for the future. The state has some good farm land and also some poor land, and in many instances the poor overshadows the good.

Unfortunately Florida has experienced too much of a speculative attitude regarding her soils, and as a result many people own tracts of land inherently not adapted to cultivated crops. For example the deep sands or flatwood soils with a hardpan have no crop value, but may be used for other purposes. To encourage people to settle such areas, and other similar areas, is neither logical nor humane and in the long run will reflect on the welfare of all classes of society.

A comprehensive soil and land use survey of Florida would lay the foundation for a scientific utilization of the land and eliminate a large number of the sad disappointments and failures which occur every year. Besides giving the location and extent of the soils best adapted to the different crops it would point out the wisdom of land utilization, and economy of encouraging fresh growth on the vast areas of idle land now not adapted to cultivated crops. The far-reaching effect of such a survey on the future of the state cannot be overestimated. It would have a profound economic as well as social influence on the future.

Objects of the survey may be summarized as follows:

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Seven Active Plant Foods,  
Whose effort never stops,  
You'll find them all in Armour's  
They bring you better crops.

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FLORIDA  
to suit  
FLORIDA  
Crops and  
Soils

**Armour's Seven Active Plant Foods  
Help "Make Every Acre Do Its Best"**

Armour's BIG CROP Fertilizers contain more than a carefully selected and balanced ration of the major plant foods. They're also rich in minor or secondary plant foods — elements that are essential to quality crops. Together these Seven Active Plant Foods make a combination that every Florida grower needs for his grove or farm.

Following abnormal conditions of the past season Nature is now developing new growth in all crops. But the problem of putting quality in your

crops is strictly up to you. It's a job for the essential ingredients in Armour's BIG CROP Fertilizers.

This year, as during the past forty, many of Florida's most successful growers will depend on Armour's BIG CROP Fertilizers to increase yields and put quality into their crops. They know, from experience, that these fertilizers not only feed crops but that they actually improve soil. Follow their example this year. Use Armour's BIG CROP Fertilizer—the fertilizer with the Seven Active Plant Foods.

Prices Now on a Delivered Basis.

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**SOIL AND LAND UTILIZATION  
SURVEY OF FLORIDA**

(Continued from page 16)

1. To describe and map the soils in the state by counties and districts.
2. To determine the relative value of the different soils for crops, forest, range, parks and recreational purposes.
3. To map and determine the extent of the soils for crop, forest, pasture, reserves and parks.
4. To publish and extend the information as educational material to the schools in the state.

If the results of such a survey could be published and disseminated as educational material it would lead to a gradual and profitable rearrangement of the cropping systems and colonization programs in certain areas and forest, pasture, and reserves in others. The result would be a fundamental asset to a large percent of the people of Florida. It would be of special value to the farmers, fruit growers and livestock producers of the state in enabling them to ascertain what soil types were best suited to their crops and animals. This would mean giving the soil types a productive rating for the crops, fruit and purpose desired. Moreover, this would be of untold value to the tax assessors because without a rating of the major soil types it is impossible to properly evaluate and assess the land for tax purposes. Such knowledge would also enable the bank and land appraisers to arrive at a fair value of the soils.

Without a knowledge of the nature and extent of the important soil types in the state the Experiment Station workers and research organizations are unable to properly interpret their field results. Moreover, the teacher, whether of vocational, secondary or college rank is unable to properly present the forces that determine the financial and social welfare of the state without a knowledge of the soil and its influence on society.

Strange as it may appear, the engineer is handicapped without a knowledge of the soil. Whether he be laying water or gas mains, building roads, digging canals or constructing power lines a knowledge of the soil will be of material assistance. The foresters, naval stores interests, and wild life leagues would greatly profit by a knowledge of the nature and extent of the soils in the state. It would certainly be unwise to presume that any soil would be suitable for game and even forest.

Reliable and scientific information would be of fundamental importance

**THE CITRUS INDUSTRY**

to the bankers and real estate boards of the state in providing ways and means of arriving at the value of soils in terms of productiveness and inherent abilities. At present these agencies have no system of judging the qualities of soils and it is impossible to avoid gross errors and mistakes which eventually reflect on them. All of the soils have a value for something and may profitably serve society.

This information would also be of real assistance to the colonization and rehabilitation agencies in the state. The good farm lands could be systematically pointed out. The complexity of the soil makes it difficult for the average farmer to ascertain

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its true value. This fact alone has been responsible for many failures and disappointments in Florida. A large part of the failures and mistakes could be avoided if the facts were available.

Since the soil determines the distribution and composition of plants to a large degree, it therefore has a direct influence on the health of animals and even man himself. Here a knowledge of the soil and its effects on food alone would be of basic importance in solving the health problems of animals and of man.

To soften dry coconut for use in cake frosting steam it in a clean cloth over boiling water.

**Hey, Big Boy,  
I can tell you  
sumpin' 'bout  
YOUR CROPS**



• "You know I need vitamins in my food. They make me big and strong and healthy."

"And your crops are like me—they need things in their food that act like vitamins in mine."

That's a fact . . . and becoming better known every day. Your crops do need vitamin-like elements—the so-called impurities, such as boron, iodine, calcium, strontium, sodium, potassium, lithium and so on.

Because of its natural origin, Chilean Natural Nitrate supplies these vital impurities, in Nature's own proportions. That's why *this* nitrogen fertilizer produces such healthy, money-making crops.

For your own protection say "Chilean" when you order nitrate. It is the only nitrogen that comes from the ground . . . and it has those vital impurities.

**Chilean  
NATURAL NITRATE**

THE OLD ORIGINAL SODA

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Ortho Dry SPREADER a film-building material for combination with Lime-Sulphur, Coposil, Bordeaux mixture and similar products. Gives excellent protective cover at low dosage, economically.

COPOSIL a semi-colloidal Copper Spray for control of Scab and Melanose on Citrus. Coposil is superior to Bordeaux Mixture since there is less build-up of insects following Coposil.



Since the freeze it is all the more important that careful thought be given to your Citrus fertilizing program.

NACO has a well balanced program for Citrus Fertilization developed through years of experience and the suggestions of practical field men that has given outstanding results in every section of Florida.

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Practice  
**REAL ECONOMY**  
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DUSTING SULPHUR

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(It's Clear -- No Sludge)

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3% NICOTINE DUST

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## FERTILIZER CONTROL LAWS

(Continued from page 5) on several occasions the use of neutral or even slightly basic fertilizers will not take the place of limestone or hardwood ashes where too acid soil conditions exist. A requirement to have all fertilizers sold in the State neutral would be a grave mistake. In certain sections, notably the lower east coast where the normal soil reaction is alkaline, acid fertilizers should be used for best results. As yet the Association of Official Agricultural Chemists has not adopted a method to determine the end reaction of fertilizers. However, they may adopt one this fall.

One of the materials used to bring about a neutral reaction in fertilizers is dolomitic limestone. This is a limestone containing magnesium carbonate as well as calcium carbonate. As magnesium is an element essential to plant growth and has been found lacking in a considerable number of soils in other states, it has been proposed that the magnesium content be guaranteed in our fertilizers. At present, however, there is some difference of opinion among agriculturists as to whether magnesium should be water soluble in order to be available to plants. Work is under way to determine this point as well as on a method to determine magnesium in fertilizers. A guarantee of the percentage of magnesium might be written into the law effective at such a time when a method for determining it is adopted by the Association of Official Agricultural Chemists.

For some time there has been a demand from growers in the Everglades that a guarantee of the magnesium and copper content of fertilizers be required. At present no of-

## THE CITRUS INDUSTRY

ficial method for determining these elements in fertilizer is available. Undoubtedly one could be worked out but it might require some time.

Some have suggested that not only should the copper and magnesium content be guaranteed but all so-called rare elements such as zinc, boron, cobalt, chromium, etc., should be guaranteed. Rather than guaranteeing these elements the writer would prohibit the addition of such elements to fertilizers. Why prohibit their addition when at least one of them, zinc, has been found very beneficial in certain cases? For two reasons: first, we know practically nothing of the reactions that take place within the fertilizer when salts of these metals are mixed with them. Secondly, if too large amounts are used they are very toxic. If mixed with the fertilizer some growers might easily use too much if they happen to use larger amounts of such a fertilizer than the manufacturer had anticipated when he mixed these salts with the fertilizer.

The above applies only to those elements added by man and not to those small quantities naturally present in some of the fertilizer materials commonly used in mixed goods.

The above are the newer requirements most often heard as being desired in a new law, undoubtedly others will be presented. Instead of having several fertilizer bills introduced in the legislature would it not be more sensible to hold a meeting or meetings of prominent growers, fertilizer manufacturers, control chemists, agriculturists and those who have new fertilizer bills to present. Let them get together, talk over the various items or requirements which are suggested in the bills, and draw up one bill which will have the united backing of all those concerned. In this way, and only in this way, are we likely to get a State fertilizer control law which is a credit to the State, and a protection for the honest farmer and manufacturer.

FARM EXPORTS SHOW  
FURTHER SHRINKAGE

The smallest January volume of farm products in more than twenty years was shipped out of the United States this year, according to the Bureau of Agricultural Economics. The Bureau's index is 57 compared with 62 in December, and with 93 in January a year ago.

The January index of cotton ex-

March, 1935

ports is 68 compared with 109 in January last year. Exports this January were 486,000 bales against 728,000 bales a year ago. Total exports for seven months ended January 31 were 3,325,000 bales compared with 5,828,000 bales during the corresponding period of 1933-34. Volume of cotton exports has declined 44 per cent, and value has declined 27 per cent.

January exports of wheat and flour, including flour milled from Canadian wheat, were 1,310,000 bushels, one of the smallest monthly exports on record. Total exports of wheat and flour from July 1 to January 31 were 14,830,000 bushels compared with 18,607,000 bushels during the corresponding period of 1933-34. The bureau says that during this period imports exceeded exports by 16,000 bushels.

All products except fruits were exported in less than pre-war volume in January. The index figures are: grain and products, 17; animal products, 33; dairy products and eggs, 69; fruit, 189; wheat, including flour, 14; tobacco, 97; hams and bacon, 18; lard, 45. All figures compare with a pre-war base of 100.



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- It goes anywhere, cuts anything, and enables one man to do the work of four or more with hand scythes.
- It has a 36-inch sickle driven by a powerful one-cylinder gasoline motor and is mounted on a free running 30-inch wheel, allowing it to be backed up, pivoted sharply, or tilted up or down slopes similar to a wheelbarrow.
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# NV SULPHATE OF POTASH IS THE QUALITY BUILDER



**T**

HIS photograph shows short, thick, well-nourished growth from a tree kept well supplied with fertilizer balanced with plenty of potash. Note the close-spaced, normalized, dark green leaves with young fruits set close to the leaves for efficient feeding.

These leaves keep the young fruits supplied with necessary plant food from your fertilizer. Such growth is not excessive, but stops when the bloom sets and then all of the tree energy is devoted to developing and maturing fruit into the top grade.

**NV** Sulphate of Potash is the quality-producing element in citrus fertilizer and quality fruit begins with the bloom. That is why it is so important to make sure your fertilizer is well-balanced with 10% potash derived from **NV** Sulphate of Potash.

Potash-hungry trees start early to develop excessive vegetative tendencies. Leaves are far apart and growth continues rather

than the energy being used for bloom and fruit set. The fruiting tendency is sacrificed. The flush of growth is poorly distributed, appearing mainly at the tops of the trees. When fruit is finally set it is usually coarse, rough and ammoniated.

Now is the time your trees are most active. They need the extra stamina that potash gives them. Potash starts them off right and keeps them on the job straight through to a quality crop.

Start now to keep your trees well supplied with fertilizer well-balanced with 10% potash derived from **NV** Sulphate of Potash, the quality-producing element. It produces smooth, well-shaped fruit with fine finish, high color, excellent texture and a large volume of juice with the proper content of solids. **POTASH PAYS!**

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**J. L. Ruskin, Representative, Box 1051, Orlando, Fla.**

### A VISIT TO THE CITRUS DISTRICT OF SOUTHERN TURKEY

(Continued from page 7)

March to the 10th of May while those in Dorytol end somewhat earlier. The period of rapid growth coincides in the spring with that of the blossom-time. In damp summers, after plentiful rains or during heavy cloudiness, a second period of rapid growth sets in, in July-Aug. which lasts about four weeks. The nutsized, fruit necessary for fumigation is reached from the end of May to June. In the districts visited, the gathering of the fruit begins in the middle of November and lasts until the end of February.

#### 3. The Orange Groves of Adana, Mersina and Dorytol

In Adana itself there are only several small and older orange groves. The newly planted orchards in the Cilician plain are of more importance. We visited the new plantation of Osman Bey at the foot of the Dededagh, 28 kilometres away from Adana. The plantation consists of 6000 dunams of light marly clay soil, very permeable. He has planted 525 dunams with oranges (12,000 trees at distances 6x6, 7x7, 8x8 m.). The land costs £T. 5 (about 14 shillings) per dunam. The labour costs 20 Turkish piastres in summer and at other seasons T. Pt. 15 (i. e. 25-30 mils) per day. As Osman Bey is a progressive, educated farmer, he has his trees budded on Bigradier as root stock. The budding ensues in the second or third year and is markedly low (often 5-20 cm. high above the ground). The "Jaffa" oranges from Mersina are practically the only ones budded; besides a few mandarines and "Tourounges." The water for irrigation is supplied by a river a few metres from the plantation, and is pumped into large trenches by means of a small motor, and is then directed to each tree through ring shaped canals.

The number of such plantations seems to be increasing recently in the Vilayet Adana and it appears as if the Turkish Government were encouraging the entry of foreign capital for the development of citrus culture in these fallow parts of the Cilician plain. According to the data of Osman Bey, frost occurs in this district rarely and when it does, it lasts for a short time only. This is to be doubted when one considers the meteorological data for the district around Adana, and it remains to be seen as to how far frost will

### THE CITRUS INDUSTRY

be a hindrance to an intensive and modern orange culture in this district. On the other hand, the lack of desert winds in the spring season to facilitate matters. It cannot be definitely stated as to how far the sudden "foehn" winds from Taurus may influence citrus culture in these southern districts.

The plantations in the neighborhood of Mersina are in most cases older and therefore arranged according to obsolete principles. The oldest, 50-year old groves, are very dense (2x3 m.) the trees are 4-6 m. high and have hardly any distance. In the numerous 5-8 year old orchards, the trees are planted 3-4 m. and 4x5 m. apart, are 3-6 m. high and the considerable distance in between enables preventive methods in contrast to the first-mentioned group. In Mersina are also large 1-2 year old orchards which are planted according to the principles of the 5-7 year old plantations. In Mersina the "Jaffa" orange was first introduced and raised, mostly as seedlings. Mandarines and Tourounges are very much less cultivated in comparison. In the older orchards manure is used extensively.

The orchards of Dorytol, often 40-60 years old present a peculiar aspect. The trunks are often 30-40 cm. in diameter, the oldest cannot be embraced by one person. The trunk is about 1½ m. high, smooth and with a fully developed crown. They are mostly 6-10 m. The distances are with few exceptions so big that a covering with tents would present no difficulty. In fact it must be considered whether it would not be possible to gather the tent at the lower end of the crown and thereby save a lot of fumigation material. Especially large tents would have to be made for the highest trees, which range up to 15 m. The question of cost can hardly play a role here as while the middle-sized trees yield from 2000 to 6000 fruits per tree (according to size and care), the highest yield from 10,000 to 15,000. Due to poor and mostly entirely superficial cultivation, insufficient or lacking fertilization, etc. etc., the proceeds are lower than what they could be. The low price of the local variety prevents real investment and the proprietors are generally deeply in debt to the Agrarian Bank. In many places one finds cereal fields, and beans and vegetables as a subsidiary culture. The large thorns cause great wind damage to the fruit. The

worts cared for trees show many deadbranches. Red Scale is strongly developed on the branches whereas in better cared for orchards it is not found on the branches at all. The soil is grey and very sandy. In the older plantations the distance between the trees are absolutely irregular.

#### 4. The Pests of the Citrus Orchards

1. **Adana** — In the older gardens near Adana, *Chrysomphalus auranti* is very common. In the uncared for orchards it infests the young twigs heavily, but in the neighbouring, cared for, orchards it gathers on the leaves and the fruit. Furthermore, *Lecanium hesperidum* and some *Icerya purchasi* are found and the *Fruit Fly* (*Ceratitis capitata*) is not unknown.

In the young plantation of Osman Bey at Dededagh, the beetles of the *Epicometis hirta* (Col. Scaram) were not uncommon among orange blossoms. A large number of these beetles was found among the vegetation of the river bank whence only a few individual beetles intruded upon the neighbouring orange groves. *C. aurantii* and *L. hesperidum* were supposed to have appeared in a lesser degree during the previous autumn but at the time of our visit no trace of these pests could be discovered. In October they were plentiful. Mr. Glueckson saw plenty of both in this young plantation.

2. **Mersina** — In Mersina also the older groves are infested with *C. aurantii* which, here also, is to be considered as the most important pest. *Parlatoria pergandei* is also not uncommon and in the uncared for and very shaded gardens it often covers the trunk and the older branches in a bark-like manner. *Ceroplastes floridensis* is to be seen everywhere. The rolling of the young leaves caused by the plant lice *Toxoptera aurantium* is observed all over. *I. purchasi* and *L. hesperidum* were only found

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March, 1935

## THE CITRUS INDUSTRY

in isolated cases. *C. capitata* is also known here. Even in a very young grove (Billet) *C. aurantii* was found to be numerous. The manager also mentioned the appearance of two other scale insects in the previous year, which from his description could well be *Chrysomphalus aonidum* and *Pulvinaria floccifera*, though these are in no way to be included in the list of citrus pests in the Mersina district until an entomologist has seen authentic specimens. Isolated beetles of *E. hirta* could be found on the blossoms.

3. **Dortyol** — Here also Red Scale is by far the most important of the orange grove pests. They occur in great numbers on leaves, fruits and branches. The trees in the gardens of the Gazi, which in the last season were sprayed six times with Polysulphur are as greatly infested as the unsprayed in the neighboring groves. *I. purchasi* was only found locally in the shady parts of a grove at Uslirli (near Dortyol.) At the time of our visit, the occurrence of this pest was only moderate in spite of the fact that in the previous year the grove was so infested that it looked as if it were covered with snow. This pest was greatly reduced by the

lady beetles (*Novius cardinalis*) which we sent to Adana. L. hesperi (Continued on Page 26)

PRELIMINARY PROGRAM  
HORTICULTURAL SOCIETY  
(Continued from Page 6)

Thursday, April 11, 9:30 A. M.  
Music.

Address — "Ornamental Trees and Shrubs and Their Degree of Resistance to Cold Injury," N. A. Reasoner, Oneoco.

Address — "The Effect of the Cold on Native Vegetation in South Florida," K. Dahlberg, Miami.

Address — "A Palmetum in South Florida," Col. Robert Montgomery, Coconut Grove.

Address — "The Akee," Dr. L. H. Baekland, Coconut Grove.

Address — "Maturity and Quality in Acid Citrus Fruits," Dr. H. P. Traub and T. Ralph Robinson, Orlando.

Address — "History of My Lichee Tree at Modello," Mrs. Eva Collins, Modello.

TENTH ANNUAL MEETING  
FLORIDA ROSE SOCIETY, HOTEL  
VERO DELMAR  
TENTH ANNUAL FLORIDA STATE

Twenty-three

ROSE SHOW CASINO  
April 10, 1935, Vero Beach

The program of the Florida Rose Society and plans for the Florida State Rose Show will be announced by the Secretary of these organizations. The Vero Beach Garden Club will hold their Annual Flower Show at the same time and place that the Rose Show is held, which will be an added attraction to the members in attendance.

## General Announcements

Plans are now complete for the holding of the Forty-Eighth Annual Meeting of the Florida State Horticultural Society and its associate organizations at Vero Beach, opening Tuesday night, April 9 and continuing through the evening of Thursday, April 11.

The sessions are open to the general public and any one interested in any type of Florida Horticulture will find it well worth their while to attend the meetings. Hotel accommodations at very reasonable rates are ample to take care of all. Those who have not seen the McKee Jungle Gardens will find that a visit to these Gardens at this season of the year will alone justify the trip.

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In Florida

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for fruit that is fully and evenly  
colored"** — *says prominent Fruit Exchange Executive*

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No wonder, then, that leading Fruit Exchanges and Associations, working with U. S. Department of Agriculture, have sought . . . and found in the use of **Ethylene** Gas . . . a method that *does* color mature fruits fully and evenly. Result! **Ethylene** colored fruit brings top prices . . . gets to market when the price is right, too . . . because fruit can be completely and evenly colored, when wanted. Colored in a short time, too . . . on the average  $\frac{1}{3}$  of the time it takes by other methods. Cost? Only a few cents a full carload of fruit.

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## Scientists Hunt High And Low For New Ways To Kill Apple Worms

Further efforts last year by the United States Department of Agriculture to solve the problems caused by poisonous spray residues on apples and pears have opened profitable channels of research. Spray residues on fruits are largely the result of the fight against the codling moth—the mother of the worms sometimes found in apples and pears. Three lines of strategy have been employed to keep such residues down to a minimum: First, the continuation of efforts which have been under way for 8 or 10 years to find a substitute for lead arsenate which may be harmless to man but poisonous to the insects; second, the control of these pests by trapping and by orchard clean-up; and third, the development of methods for the removal of poisonous residues when fruit sprayed with lead arsenate or other poisons is being prepared for the market.

In the search for substitute sprays, nicotine has proved the most promising. Before this alkaloid can be used in a practical way, however, it will be necessary to develop means to make it stick better to fruit and foliage in spite of rains, and also to prevent too rapid evaporation. In this direction some progress has been made with nicotine combinations such as with bentonite, with tannic acid, and with mineral oil. None of the combinations developed thus far, however, are sufficiently effective, cheap and satisfactory to replace lead arsenate.

Derris, a tropical plant containing a poison known as rotenone, and pyrethrum, which contains the toxic substances used in most insect powders and fly sprays, failed to control the codling moth under the conditions of last year's experiments. The Department is keeping up a search for new plants which contain substances harmless to human beings but deadly to insects. Information on

such plants has been collected from many parts of the world.

Tests last year with bait traps and light traps reduced the number of moths somewhat, but not to the point of lessening greatly the need for spraying. The orchard sanitation practices recommended by the Department and successfully demonstrated last season are of value in reducing the number of spray applications needed. Fewer sprays, especially late in the season, mean less residue to wash from the fruit. Electrified light traps used in the work in 1934 were very expensive to install and operate, but it is hoped that with improvement in their effectiveness the number needed can be reduced to a point where their employment in practical orchard operations would be profitable. Efforts to control the moths with parasites were unsuccessful.

The codling moth is one of the worst insect enemies of the apple and pear grower. Spraying with lead arsenate has been the most important means for controlling it. Because of the great interest in the health aspect of the use of lead arsenate on apples and pears, the problem has become more difficult and complex. Horticulturists of the Department and of State Experiment Stations have developed machinery and solutions for removing poisonous residues, thus enabling the growers to continue, to a large extent, the use of lead arsenate without causing a hazard to the consumer.

Studies by the Bureau of Plant Industry to determine the possibility of growing plants for the production of organic spray materials will go on. Even though these materials may be found ineffective in controlling the codling moth, they will undoubtedly be useful in controlling other insect pests. Both derris and pyrethrum are widely used for this purpose now. Devil's shoestring, a native weed which bears a flower that resemble sweetpeas, may prove of value although its rotenone content is less than that of derris and related plants of the tropics. It grows from Canada to Mexico and gets its name from its long slender roots. Its toxicity varies with the location where the plant is

grown. The root collections from the eastern part of Texas have been found to possess the highest rotenone content, and the Department is making a special study of the plants in this area.

One of the objections to using nicotine sprays is the cost. Under present conditions an application of nicotine costs the grower about three times as much as one of lead arsenate, and more applications of nicotine are usually necessary. In an effort to reduce the cost of the nicotine, plant breeders of the Department are trying to build up the nicotine content of certain strains of tobacco by crossing them with rustica, another member of the plant family that includes tobacco. Also they are breeding up high-nicotine strains of rustica itself. This trend is in contrast to breeding efforts of the past which have usually been in the other direction—seeking to decrease the nicotine in smoking tobacco.

The search for codling moth control methods without the spray residue hazard is being continued by the Department, in cooperation, as heretofore, with a number of State Experiment stations.

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# Change In Labels Not Obligatory

Industrial Advisory Board of National Recovery Administration Considers  
Canning Industry Under No Obligation to Make Any Changes  
Pending Voluntary Amendment of Its Code

The N. R. A. Division Administrator in charge of the Canning Industry Code has sent to label manufacturers advice and suggestions that are being interpreted as meaning that to meet this expected requirement, as well as to avoid future difficulties, canners should put on their labels a grade designation such as A, B, or C, or Fancy, Choice or Standard. Circulation of the Division Administrator's advice and suggestions among canners has led to further confusion and misunderstanding of the situation with respect to label supplies for the current year.

#### Association's Inquiry and Industrial Advisory Board's Reply

In view of this situation the Association directed a letter, under date of March 11th, to the Industrial Advisory Board, inquiring whether there was a basis in fact for the inferences that might be drawn from the suggestions that had been circulated, and requesting information as to the present status of the labeling question. The Association has received from W. P. Witherow, Vice-Chairman of the Industrial Advisory Board, National Recovery Administration, the following letter, under date of March 19th:

"Dear Mr. Gorrell:

"In answer to your question relative to the status of proposed label regulations under the Code of Fair Competition for the Canning Industry, No. 446, we have made various inquiries and find the situation to be as follows to the best of our knowledge and belief.

"Under the Executive Order approving your Code there was a requirement that the industry designate a committee to cooperate with the Administrator in the formulation of standards of quality for products of the industry, and to make recommendations to the Administrator within 90 days for the inclusion in the Code of provisions dealing with standards and labeling requirements. Inasmuch as the report required by the above clause has been made, the industry has fulfilled the obligation imposed upon it by the Executive Order. So far as we know, the National Recovery Administration has

not committed itself to any specific labeling program, although it is apparent from releases that the Consumers' Advisory Board and some of the bureaus in the Department of Agriculture favor symbolic labeling.

"Canners would therefore seem to be under no obligation pending voluntary amendment of their Code to make any changes whatsoever in their labels, except as required by the Department of Agriculture, or except such changes as they may be inclined to make voluntarily."

The Association's Labeling Committee, at the time of the annual convention, gave canners its advice as to the ordering of label supplies. That advice was based on the situation as of that date, and it has not since changed. The National Canners Association in a circular letter, under date of February 23rd, again brought the subject to the attention of canners. The present situation, briefly summarized, is as follows:

The Division Administrator in charge of the canning industry code has taken no action on the report submitted to him by the industry's Standards and Label Committee last September.

The canning industry has, since the submission of that report, reaffirmed its opposition to grade labeling and is going ahead with its task of developing a descriptive labeling system.

Under the circumstances, adoption of grade labeling can be effected only through the canning industry reversing its position or by the President approving the imposition of grade labeling on the industry by the N. R. A.

Action in the near future by the Administration to impose grade labeling upon the canning industry contrary to the expressed wishes of the industry is unlikely, in view of the fact that legislation for continuance of the National Industrial Act after June 16 is yet to be formulated, and especially in view of the statement made to the Senate Finance Committee by Donald Richberg, Executive Director of the National Emergency Committee. In this statement Mr. Richberg presented recommendations

as to revision and extension of the National Industrial Recovery Act, prepared by representatives of the National Recovery Administration, among which was the following:

"The President's power to impose conditions upon his approval of a code, or to require amendments or modifications thereof, should be explicitly given. But the proponents of voluntary codes should have the right to withdraw their consent from codes so modified as to be unacceptable to them."

#### Considerations That Should Govern Canners' Action

The Labeling Committee, in view of the fact that the industry is committed to a descriptive labeling plan as recommended to the National Recovery Administration by the industry's committee last September, has advised canners to place orders, as they would under ordinary circumstances, for the labels they will need during the current season, but not to order supplies in excess of that amount.

The descriptive labeling plans will be carried forward as rapidly as possible, but it will take time to work out the details before the plan can be placed in operation.

Canners are free, of course, to make such changes in their labels as they desire and as may be in conformance with the Food and Drugs Act. It is the Food and Drugs Act that governs labeling and it is the Food and Drug Administration, not the National Recovery Administration, that will ultimately determine whether labels are acceptable to the Food and Drug Administration and whether labeling as done by the canners conforms with the law.

Canners may make an effort, if they so desire, to anticipate future labeling requirements. This, of course, will involve an expense which may or may not be justified by future developments. The only safe guide in making a decision is to be found in the facts of the situation, not in advice which, if followed, would accomplish by indirection the ends which proponents of grade labeling have otherwise been unable to attain.

### A VISIT TO THE CITRUS DISTRICT OF SOUTHERN TURKEY

(Continued from Page 23)

dum was quite frequent on young plants. *C. floridensis* is common in several groves. *Pseudococcus citri* was isolated at the time of our visit but according to Eshref Bey it causes a heavy fall of fruit in the autumn. We learnt from the same source that *C. capitata* occurs quite frequently on thin skinned fruits.

An interesting fauna is found in the decayed trunks of old trees. Besides the termite *Calotermes flavigollis* and ants (*Crematogaster* sp.) the large larvae of polyphagous beetles, as *Ergates faber* L. also bore into the trunks. All these insects are not major pests, but penetrate the already rotting wood.

A list of insects affecting citrus trees in the remaining citrus districts of Turkey was given to me by my friend Nihat Bey of Bornova.

Districts: Antalya and Silifke — Pests: *Crysomphalus aurantii*, *C. dictyospermi*, *Pseudococcus citri*, *Icerya purchasi*, *Ceroplastes rusci*, *Ceratitidis capitata*, *Cryptoblabes gnidiella*.

Districts: Aydin and Milas — Pests: *C. aurantii*, *C. dictyospermi*, *Lecanium hesperidum*.

District: Riza — Pests: *C. aurantii*, *Lepidosaphes gloveri*, *Lec. hesperidum*, *Ceroplastes sinensis*, *Pseudoc. citri*.

District: Izmir — Pests: *C. aurantii*, *C. dictyospermi*, *C. pinnulifer*, *Lepidosaphes gloveri*, *Lecanium hesperidum*, *Saissetia oleae*, *Ceroplastes rusci*, *C. sinensis*, *Icerya purchasi*.

In the Adana-Mersina districts he further cited Chrys. *dictyospermi*, *Ceroplastes rusci* and *Cryptoblabes gnidiella*.

(Continued Next Month)

Brooks County, in Texas, has been added to the regulated area from which the Interstate movement of citrus and certain other fruits is restricted under the Mexican fruit worm quarantine. Secretary Wallace announced that the revision of the regulations became effective March

**MUST SACRIFICE** — Forty acre, six-year bearing Marsh Seedless grove, Indian River section. Heavy soil underlaid with marl. Excellent drainage. Two flowing wells. Now has crop of fruit and very heavy bloom. On hard road, seven miles from town, \$7,500. Rare opportunity.

H. H. HIELD, Owner  
Vero Beach, Fla.

### THE CITRUS INDUSTRY

19, 1935. This action is a result of the finding of Mexican fruit fly larvae in grapefruit grown in that county.

#### E. L. LORD

Consulting Horticulturist.  
Grove Advisory Service.  
Economical, Safe, Effective.  
Why not give your grove a break?

P. O. Box 757

Winter Haven, Fla.

#### CLASSIFIED

#### Advertisements

The rate for advertisements of this nature is only five cents per word for each insertion. You may count the number of words you have, multiply it by five, and you will have the cost of the advertisement for one insertion. Multiply this by the total number of insertions desired and you will have the total cost. This rate is so low that we cannot charge classified accounts, and would, therefore, appreciate a remittance with order. No advertisement accepted for less than 50 cents.

#### PERSONAL

QUIT TOBACCO easily, inexpensively, without drugs. Send address. N. A. Stokes, Mohawk, Florida.

THIRTY TREES and budwood from record performance Perrine Lemon parents, Persian Lime and other citrus varieties. DeSoto Nurseries, DeSoto City, Fla.

UP to \$20.00 paid for Indian Head Cents: Half Cents \$125.00; Large Copper Cents \$500.00, etc. Send dime for list. Romanocinshop, D. Springfield, Mass.

WANTED: — Good second hand double orange sizer, which will run two cars. Christian & Neal, McIntosh, Fla.

WANTED — To hear from owner of land for sale. O. Hawley, Baldwin, Wis.

ALYCE CLOVER, the adapted Florida legume for hay or cover crop. Rich in fertilizer or hay value. Pure seed for sale by Hardin Nurseries, Box 63, Lakeland, Fla.

Large citrus trees for replanting at special low price. Grafted avocado trees and budwood of Perrine lemon and Tahiti limes.

WARD'S NURSERY  
Avon Park, Fla.

MEN WANTED — Sell shirts. No experience necessary. Free samples. Commission in advance. Free ties with shirts. Carroll Mills, 875A Flatbush Av., Brooklyn N. Y.

FREE Booklet describes 87 plans for making \$20-\$100 weekly, home or office, business your own. Elite Service, 505 Fifth ave., New York City.

March, 1935

#### FOR SALE

Lists of Florida Citrus Growers compiled from recent survey of groves, arranged by counties. Name, address, acreage and legal description.

Also list wealthy residents of Florida.

W. L. Lamar

P. O. Box 163

ATLANTA, GA.

CROTALARIA INTERMEDIA: 50c per lb. SPECTABALIS, 20c. New crop cleaned scarified seed. Igou-Kauffman Crotalaria Co., Eustis, Fla.

CLEOPATRA MANDARIN — Cold-resistant root stock, all sizes to  $\frac{1}{2}$  inch caliper, \$10.00 per 100 up. Also buds and sour orange stock. Grand Island Nurseries, Eustis, Fla.

PUREBRED PULLETS FOR SALE — White Leghorns and Anconas ready to ship. Barred Rock and R. I. Reds shortly. Several hundred yearling White Leghorn hens now laying 70%. Write or wire for prices. C. A. Norman, Dr. 1440, Knoxville, Tenn.

WANTED — To hear from owner having good farm for sale. Cash price, particulars. John Black, Chippewa Falls, Wisconsin.

LAREDO SOY BEANS, considered free from nematode, excellent for hay and soil improvement. Write the Baldwin County Seed Growers Association, Loxley, Alabama, for prices.

FANCY ABAKKA pineapple plants. R. A. Saeger, Ankona, Florida.

FOR SALE — Selected budwood and trees of Perrine lemon, Tahiti lime, new varieties of tangerines and other citrus. Ward's Nursery, Avon Park, Fla.

DETAILED SOIL ANALYSIS, Interpretations, \$2.50. Soil Laboratory, Frostproof, Florida.

SCENIC HIGHWAY NURSERIES has a large stock of early and late grapefruit and oranges. One, two and three year buds. This nursery has been operated since 1883 by G. H. Gibbons, Waverly, Fla.

NEW COMMERCIAL lemon for Florida, the Perrine proven. All residents need yard trees, keeping Florida money at home. Booking orders for budded stock for winter delivery. DeSoto Nurseries, DeSoto City, Fla.

SATSUMA BUDWOOD from Bearing Trees. Hills Fruit Farm, Panama City, Fla.

SEED — Rough lemon, sour orange, cleopatra. New crop from type true parent trees. Also thrifty seedlings. DeSoto Nurseries, De Soto City, Florida.

BUDDED trees new Florida commercial lemon, proven, thin skinned, juicy, acid immune. Also rough lemon, sour orange and Cleopatra seed and linington seedlings. DeSoto Nurseries, DeSoto City, Fla.

SEEDS — ROUGH LEMON, SOUR ORANGE, CLEOPATRA. Pure, fresh, good germination. Also seedlings lineout size. De Soto Nurseries, DeSoto City, Fla.

CROTALARIA SPECTABALIS — Seed for sale. New crop, well cured, bright and clean. Price 25c per pound in 100 pound lots and over, 30c per pound in less quantities. f. o. b. Hastings, Bunnell, Lowell and San Antonio, Florida. F. M. LEONARD & COMPANY, Hastings, Florida.

WANTED — Position as packing house foreman; in citrus business twenty-five years; ten years' experience as foreman; married man. J. E. Henry, Okahumpka, Florida.

35  
April, 1935

THE CITRUS INDUSTRY JACKSONVILLE, FLORIDA <sup>Three</sup>

## Features In This Month's Issue

Citrus Research Work By The State

By Citrus Committee

Winter Haven Chamber of Commerce

Will Peninsular Florida Become A Desert?

By John F. May

State Control of Citrus Proposed

Editorial

Florida Freezes and Lessons From Them

By W. J. Bennett

A Brief Review of Proposed Citrus Legislation

Citrus Advertising From The Growers

Point of View

By H. C. Case

Impressions

By Frank Kay Anderson

Grove Practices For Current Season

By Jefferson Thomas

A Visit To The Citrus District of  
Southern Turkey

(Concluded from Last Issue)

FREE PUBLIC LIBRARY  
JACKSONVILLE, FLORIDA <sup>Three</sup>

# SAFE! EASY!

to build up Sulphur  
Content of Summer  
Sprays with

**WHITE  
BAND** TC

"True to Label"

# WETTABLE SULPHUR

To prevent rust mite toll in your grove, to control red spiders, to kill scale crawlers, sulphur content of sprays should be increased when you weaken lime-sulphur and other sprays to prevent burning. The safest, easiest and most economical way to get this extra protection for your grove is to add WHITE BAND WETTABLE SULPHUR. It is pure sulphur with specially processed spreader and sticker — and there's nothing in it to cause burning. Your dealer can supply you with a folder showing how to build up sulphur content of lime-sulphur and other sprays with WHITE BAND WETTABLE SULPHUR. Ask for a copy.

●  
**"WHITE BAND"  
Superfine  
DUSTING SULPHUR**

gives more economical coverage and control when you dust your grove. Fineness means more "surface exposed" sulphur, more and quicker fuming to do a better killing job.

You'll like WHITE BAND LIME-SULPHUR SOLUTION, too, because it's clear — no sludge to foul spray tanks and pumps.

Sold by leading dealers  
and distributors of  
Quality Insecticides

●  
Made in Florida for Florida growers by  
U. S. Phosphoric Products Corp., Tampa

# 5 Questions:

- 1.** In what way can I average better net returns for my fruit over a period of years . . . ?
- 2.** Distinguish my fruit from the general run so even consumers may know it and ask for it . . . ?
- 3.** Obtain its full market value right along . . . ?
- 4.** At the same time build good will as an aid to future sales . . . ?
- 5.** Do my part toward expanding markets to provide for further increasing production . . . ?

# With 1 Answer:

By using AFG  
Selling Service  
and the famous  
BLUE GOOSE  
trademark



**American Fruit Growers Inc.**

Florida Division  
Orlando, Florida